# Exhibit 7

# THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW JERSEY

BING LI, Individually and on Behalf of All Others Similarly Situated,

Case No.: 3:14-CV-07081-PGS

Plaintiff,

VS.

AETERNA ZENTARIS, INC., DAVID A. DODD, JUERGEN ENGEL, DENNIS TURPIN, JUDE DINGES, RICHARD SACHSE, and PAUL BLAKE,

Defendants.

## EXPERT REPORT OF DAVID I. TABAK, PH.D.

#### I. SCOPE OF ANALYSIS AND SUMMARY OF FINDINGS

1. This is a securities action for which plaintiffs seek "certification of a class of persons or entities that purchased Aeterna securities on a U.S. Exchange or in a U.S. transaction during the period from August 30, 2011 through November 6, 2014, both dates inclusive (the 'Class Period'), and who did not sell such securities prior to November 6, 2014 (the 'Class')" In support of their motion, plaintiffs have submitted the "Declaration of Dr. Adam Werner" (the "Werner Declaration").

<sup>&</sup>lt;sup>1</sup> Memorandum of Law in Support of Lead Plaintiffs' Motion for Class Certification, p. 1. Concluding footnote omitted.

- 2. Counsel for defendants in this matter has asked me to examine the Werner Declaration and answer the following questions:
  - a. Does the Werner Declaration support a finding of market efficiency for securities other than the common stock of Aeterna Zentaris ("Aeterna")?
  - b. Did the alleged misrepresentations made on August 30, 2011 have an impact on the price of Aeterna's common stock?
  - c. Did any reiteration or repetition of the alleged misrepresentations made on August 30, 2011 have an impact on the price of Aeterna's common stock?
  - d. Is the proposed damages methodology in the Werner Declaration generally accepted?

#### 3. My findings are as follows:

- a. The Werner Declaration provides an opinion "that Aeterna's common stock traded in an efficient market throughout the Class Period" and performs analyses designed to support that opinion. However, the Werner Declaration has *no* opinion or analyses regarding any other Aeterna securities. As many securities can trade in inefficient markets even if the common stock of the same issuer trades in an efficient market, the Werner Declaration does not support a finding of efficiency for any security other than Aeterna's common stock.
- b. The Werner Declaration recognizes that the news on August 30, 2011 "was new valuation-relevant information that could reasonably be expected to cause the Company's stock price to move by a statistically significant amount." That is, the news on August 30, 2011 was not of a type that would be expected to maintain the stock price at its previous

<sup>&</sup>lt;sup>2</sup> Werner Declaration, p. 3.

<sup>&</sup>lt;sup>3</sup> Werner Declaration, ¶66 (referencing dates including August 30, 2011).

level, but instead if the news had an impact on the market, it would be "expected to cause the Company's stock price to move by a statistically significant amount." The analysis in the Werner Declaration confirms that the news on August 30, 2011 did not have a statistically significant impact on Aeterna's share price. Analysts also did not change their ratings or price targets for Aeterna following the August 30, 2011 news, further confirming the lack of price impact of that news.

- c. The Complaint alleges that "[i]n a series of public announcements from August 30, 2011 through March 21, 2014, Aeterna continually misrepresented that the AEZS-130 Phase 3 study had met its primary endpoint for efficacy and that AEZS-130 had proven effective according to the parameters of the SPA." The Complaint further alleges that on June 26, 2012, Aeterna issued a press release "reiterating the final results of the Phase 3 drug trial with respect to AEZS-130." Under Plaintiffs' theory of liability, as expressed in the Complaint, and based on the analyses in the Werner Declaration, if Aeterna's shares traded in an efficient market, the market should not have responded to the reiteration of the alleged misrepresentation first made on August 30, 2011, because such a reiteration would not represent new information, meaning that there could be no price impact from any reiteration of that alleged misrepresentation on June 26, 2012 or any other date.
- d. The proposed damages methodology in the Werner Declaration has not been generally accepted since the Supreme Court's 2005 ruling in *Dura Pharmaceuticals, Inc. v. Broudo*, 544 U.S. 336, 125 S. Ct. 1627, 161 L. Ed. 2d 577 (2005) ("*Dura*"). In addition, other aspects of the proposed

<sup>&</sup>lt;sup>4</sup> Second Amended Class Action Complaint for Violations of the Federal Securities Laws ("Complaint"), ¶16.

<sup>&</sup>lt;sup>5</sup> Complaint, ¶84.

damages methodology in the Werner Declaration call into question whether it can provide damages consistent with Plaintiffs' theory of liability.

4. These findings are discussed in more detail in the following sections.

## II. QUALIFICATIONS AND REMUNERATION

- 5. I received Bachelors degrees in Physics and in Economics from the Massachusetts Institute of Technology and a Masters degree and a Ph.D. in Economics from Harvard University. I have appeared as an expert in federal district courts; state trial courts; bankruptcy court; and in arbitration forums, including the National Association of Securities Dealers, the International Chamber of Commerce International Court of Arbitration, and the American Arbitration Association. I have published in my fields of expertise on subjects such as market efficiency, loss causation, statistics, and the analysis of stock price movements.
- 6. National Economic Research Associates ("NERA") was established in 1961 and now employs approximately 500 people in over twenty offices worldwide. NERA provides consulting for economic matters to parties for their internal use, to parties in litigation, and to governmental and regulatory authorities. I have worked at NERA for over fifteen years and am a senior vice president in NERA's securities and finance practice. My work entails providing analyses for parties in litigation and consulting for parties in non-litigation settings. I have served as a speaker at events providing CLE credits for attorneys and at academic conferences on areas related to securities litigation. I have published in peer-reviewed and industry publications, and my publications have been cited by courts including the First Circuit Court of Appeals (the latter in *Bricklayers and Trowel Trades v. Credit Suisse LLC*, 752 F.3d 82 (1<sup>st</sup> Cir. 2014)). I have provided reports and/or testimony for both plaintiffs and defendants in securities litigation.
- 7. My curriculum vitae, which sets forth in further detail my publications and prior testimony experience, is attached to this report as Exhibit 1.

8. NERA is being compensated on a non-contingent basis for out-of-pocket costs and at our usual rates for time. My billing rate is \$850 per hour. I have been assisted by a number of individuals at NERA working at my direction who are billing at their standard rates.

#### III. MATERIALS CONSIDERED

9. Materials considered for the purposes of this report are listed in Exhibit 2.

# IV. THE WERNER DECLARATION PROVIDES NO SUPPORT FOR A FINDING OF MARKET EFFICIENCY FOR SECURITIES OTHER THAN AETERNA'S COMMON STOCK

- 10. The first of two opinions in the Werner Declaration is that "Aeterna's common stock traded in an efficient market throughout the Class Period." The Werner Declaration provides 13 different analyses or sets of analyses in support of its opinion regarding the efficiency of the market for Aeterna's common stock.
- 11. Even if Aeterna's common stock traded in an efficient market, that does not mean that other Aeterna securities traded in efficient markets.<sup>7</sup> At a minimum, one must consider the ways that any other Aeterna security's price is or is not related to the price of Aeterna's common stock before extrapolating from the efficiency of the market for Aeterna's common stock to the efficiency of the market for any other Aeterna security.
- 12. As the Werner Declaration does not mention, much less discuss or analyze, any Aeterna securities other than the common stock, it does not provide a sound basis for a finding that any other such securities traded in efficient markets. Further, when asked in

<sup>&</sup>lt;sup>6</sup> Werner Declaration, p. 3.

<sup>&</sup>lt;sup>7</sup> At this point, I am unaware of what particular securities (other than Aeterna's common stock), if any, plaintiffs mean to include in their definition of the class as they have not listed any such securities or even shown that there were such publicly traded securities.

his deposition if "Aeterna's common stock trades in an efficient market, does it necessarily follow that all of its securities trade in an efficient market?", Dr. Werner responded, "No." When asked if he had any opinion regarding the efficiency of the markets for Aeterna securities other than the common stock, Dr. Werner responded that he had not been asked to perform any such analysis. I take that to mean that since he has not performed any such analysis, Dr. Werner is offering no opinion on the efficiency of any Aeterna securities other than the common stock.

# V. THE WERNER DECLARATION DEMONSTRATES A LACK OF PRICE IMPACT FROM THE AUGUST 30, 2011 NEWS

13. The Werner Declaration recognizes that the news on August 30, 2011 "was new valuation-relevant information that could reasonably be expected to cause the Company's stock price to move by a statistically significant amount." That is, the news on August 30, 2011 was not the sort that should have left the stock price unchanged, the way an omission would. Instead, the August 30, 2011 information was new and valuation-relevant, meaning that if it was important to the market, one would expect it to cause a change (here, an increase) in Aeterna's stock price. Dr. Werner made this determination through a two-step protocol of first identifying eight relevant events by "review[ing] news events during the Class Period on which new information related to Phase III clinical trial results for AEZ-130 was released" and then "review[ing] contemporaneous news media and analyst reports published around these eight dates to determine whether the information conveyed in these events was new valuation-relevant information that could reasonably be expected to cause the Company's stock price to move by a statistically significant amount[,]" which caused Dr. Werner to determine that four of

<sup>&</sup>lt;sup>8</sup> Werner Depo., 129:20-24.

<sup>&</sup>lt;sup>9</sup> Werner Depo., 130:24-131:3.

<sup>&</sup>lt;sup>10</sup> Werner Declaration, ¶66.

<sup>&</sup>lt;sup>11</sup> Werner Declaration, ¶66.

those events, including the August 30, 2011 news announcement, should be expected to result in a statistically significant change in Aeterna's stock price.

14. The Werner Declaration finds that the price movement following the August 30, 2011 news has a "t-statistic" of 1.40, which it admits "is not statistically significant at the 95% confidence level" or, equivalently, at the standard 5% significance level. Thus, under standard economic and legal analysis, this allows one to conclude that there was no price impact from the August 30, 2011 press release. In terms of the pre-specified

Werner's use of terminology such as "statistically significant at the 95% confidence level" though that terminology is generally considered potentially misleading (see, for example, the *Reference Guide on Statistics*, p. 247) and, notably, *does not* indicate a confidence level that could be compared to a concept such as a preponderance of the evidence. (See the *Reference Guide on Statistics*, fn. 138 ("even if we grant the model, a *p*-value [or level of statistical significance] less than 50% does not demonstrate a preponderance of the evidence against the null hypothesis") and fn. 103 (citing as a mistake a decision crediting a 15% significance level as representing 85% confidence and therefore meeting the burden of proof by a preponderance of the evidence.) I also follow Dr. Werner's terminology of "statistically significant at the 95% confidence interval."

<sup>13</sup> See, for example, *Erica P. John Fund, Inc. v. Halliburton Company*, No. 3: 02-CV-1152-M (N.D. Tex. July 25, 2015) ("*Halliburton*"). ("To show that a corrective disclosure had a negative impact on a company's share price, courts generally require a party's expert to testify based on an event study that meets the 95% confidence standard" and that for one announcement, plaintiff's expert "found an intraday statistically significant price reaction on Day 1 only at a 90% confidence level, which is less than the 95% confidence level both experts require in their regression analyses and which the Court finds is necessary." The same standard should apply to a positive impact from a misrepresentation, and, in fact, both experts and the Court in *Halliburton* applied the 95% confidence / 5% significance standard to the analysis of stock-price movements following the alleged misrepresentations in that case.)

See also *In re American International Group, Inc. Securities Litigation*, No. 04 Civ. 8141 (DAB) (S.D.N.Y. Feb. 22, 2010), rejecting drawing conclusions that news affected a stock price using event studies that demonstrated statistical significance at merely the 10% significance level rather than the standard (and stronger) 5% significance level (or the so-called "95% confidence level"). ("The Court finds that Dr. Finnerty's testimony and studies at most demonstrate that it has recently become acceptable in the financial economics field generally to report results at the 10% level. This does not demonstrate, however, that it is consistent with standard methodology in financial economics, or in (continued)

statistical protocol in the Werner Declaration, the results for August 30, 2011 show that that date did not satisfy the stated objective of demonstrating a statistically significant change in Aeterna's stock price.

15. The Werner Declaration attempts to get around the failure of August 30, 2011 to meet the stated objective under its protocol by claiming that "[t]hough a *t*-statistic value of 1.40 is not statistically significant at the 95% confidence level, it is significant at the 85% confidence level." In fact, a t-statistic of 1.40 is not statistically significant at the "85% confidence level," as only t-statistics of 1.44 or higher in absolute magnitude are statistically significant at that level. In his deposition, Dr. Werner admitted that the statement in his declaration regarding the 85% confidence level was incorrect, testifying that the relevant text of his declaration "should be corrected to read the 84% confidence interval." However, Dr. Werner is again incorrect. To be statistically significant at the

conducting event studies specifically, to draw conclusions at the 10% level.") In addition, see *In re Intuitive Surgical Securities Litigation*, No. 5: 13-cv-01920-EJD (N.D. Cal. Dec. 22, 2016). ("The court finds a lack of price impact in connection with the release of Intuitive's financial results between April 18th and April 19th 2013. First, neither Lehn nor Coffman found a statistically significant price impact at the 95% confidence level for this date. Coffman Rebuttal ¶ 6(iii)(a). Rather, Coffman's analysis resulted in a price impact at a 90% confidence level. Id.; Reply at 14. Although Plaintiffs argue that price impact at a 90% confidence level is a statistically significant, the district court in Halliburton Tex adopted 95% confidence level as the threshold requirement and this court finds no reason to deviate here.")

When asked "what [do] you mean by 'statistically significant'?" in his deposition, Dr. Werner responded, "Statistically significant at a 95% confidence interval." (Werner Depo, 53:4-7.) When asked why he chose the 95% confidence interval, Dr. Werner responded, "That's a standard practice in my industry." (Werner Depo., 56:2-5.)

14 Werner Declaration, fn. 89.

<sup>&</sup>lt;sup>15</sup> I have confirmed this from my own analysis as well as by reviewing a table showing the cut-off or critical values for statistical significance. One such table was marked as Exhibit 2 in the Werner Deposition, also available at http://uregina.ca/~gingrich/tt.pdf.

<sup>&</sup>lt;sup>16</sup> Werner Depo., 78:22-23. Also, "I believe that should read at the 84% confidence interval." (Werner Depo., 79:3-4.) In addition, one of the figures in ¶83 of the Werner Declaration, which discusses the analysis of Aeterna's stock-price movement following the August 30, 2011 news is incorrect, as it was inconsistent with the corresponding (continued)

"84% confidence interval," a t-statistic would need to be at least 1.405, while the back-up files provided for the Werner Declaration show that the t-statistic for August 30, 2011 is only 1.397. Therefore Aeterna's stock-price movement following the August 30, 2011 news is not statistically significant at the standard "95% confidence level," at the weaker "85% confidence level" stated in the Werner Declaration, or even the still weaker "84% confidence level" that Dr. Werner claimed would correct the error in the Werner Declaration.

16. Even if one (incorrectly) credited the August 30, 2011 price movement as being statistically significant at the "85% confidence level," that would correspond to the 15% significance level using the more common two-tailed test or, equivalently, the 7.5% significance level using a one-tailed test. As noted in footnote 110 of the *Reference Guide on Statistics*, part of the *Reference Manual on Scientific Evidence*, Third Edition (2011), a document that the Werner Declaration relied upon as an authority, "One-tailed tests at the 5% level are viewed as weak evidence—no weaker standard is commonly used in the technical literature." Dr. Werner testified that he "agree[s] with the entire footnote 110 [of the *Reference Guide on Statistics*] where it discusses which includes a discussion of one and two-tail tests." Because larger significance levels (or smaller confidence levels) are weaker than smaller significance levels (or larger confidence

figure in Werner Exhibit-8. Dr. Werner testified in deposition that that did not appear to be an error (Werner Depo., 124:16-129:4) but rather an improper description of one figure. However, an examination of the other three dates that the Werner Declaration examines shows that this inconsistency between the figures in the text and those in Werner Exhibit-8 is confined to the discussion of August 30, 2011. Despite this error in the Werner Declaration, I have confirmed that the stock-price movement in response to the August 30, 2011 disclosure still fails to achieve statistical significance at the standard 5% level (or the equivalent "95% confidence level," using Dr. Werner's terminology) or even the weaker 15% significance level (or the equivalent "85% confidence level").

<sup>&</sup>lt;sup>17</sup> See, for example, Exhibit 2 to the Werner Deposition.

<sup>&</sup>lt;sup>18</sup> Reference Guide on Statistics, part of the Reference Manual on Scientific Evidence, Third Edition (2011), fn. 110.

<sup>&</sup>lt;sup>19</sup> Werner Depo., 81:1-3.

levels), even the claimed result at the 7.5% significance level for a one-tailed test is weaker than one at the 5% significance level, of which the *Reference Guide on Statistics* states "no weaker standard is commonly used in the technical literature." That is, the price movement on August 30, 2011 fails to even reach the weakest standard commonly used in the technical literature for finding any price impact from the August 30, 2011 announcement.

17. This conclusion is consistent with the response of analysts to the August 30, 2011 news. The Werner Declaration mentions not a single analyst who changed his or her rating on Aeterna following the August 30, 2011 news or who changed his or her price target for Aeterna's common stock following this news, nor am I aware of any such analyst. In contrast, when discussing the November 6, 2014 news, the Werner Declaration goes out of its way to point out that following that news, "Canaccord analysts commented, 'we expect significant pressure on the stock in the near-term as fast money runs for the exits.' Similarly, the Maxim Group analyst reduced his price target from \$6.00 to \$2.00 and removed AEZS-130 from their valuation model." Exhibit-4 of the Werner Declaration also shows that H.C. Wainwright & Co. put out a report on Aeterna with a "neutral" recommendation on November 6, 2014, with its last report, on October 27, 2014, having a "buy" recommendation.<sup>21</sup>

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<sup>&</sup>lt;sup>20</sup> Werner Declaration, ¶94. Internal and concluding footnotes omitted.

<sup>&</sup>lt;sup>21</sup> Evidence of analysts changing their ratings following important news can also be seen following Aeterna's April 2, 2012 announcement with disappointing news about the Perifosine Phase 3 trial results. Per Werner Exhibit-4, on April 2, 2012, Byron Capital Markets and Canaccord Genuity lowered their ratings from "speculative buy" to "hold," while Desjardins Securities Inc. lowered its rating from "buy" on April 2 to "hold" on April 3, 2012. MLV & Co LLC put out a report on April 2, 2012 stating, "[W]e are lowering our recommendation from a BUY to a HOLD and are placing price target for Æterna Zentaris shares under review." ("X-PECT Trial Does Not Meet Primary Survival Endpoint," *MLV* & *Co*, April 2, 2012.)

18. The lack of analyst action following the August 30, 2011 news, in contrast to the analyst action following other news events, further supports a finding that there was no price impact from the August 30, 2011 news.

# VI. UNDER PLAINTIFFS' THEORY OF LIABILITY AND BASED ON THE ANALYSES IN THE WERNER DECLARATION, THERE IS NO PRICE IMPACT FROM REITERATIONS OF THE AUGUST 30, 2011 News

19. The Werner Declaration considers one other date on which information regarding the Phase 3 study results was released, June 26, 2012. While the Werner Declaration finds that there was a statistically significant price movement on June 26, 2012, it does not address whether that price movement is attributable to any alleged misrepresentation made that day.

20. Under Plaintiffs' theory of liability, as expressed in the Complaint, and based on the analyses in the Werner Declaration, the market should not have responded to the discussion of the Phase 3 results on that day because it did not represent new information. Specifically, the Complaint alleges that on "June 26, 2012, Aeterna issued a press release ... *reiterating* the final results of the Phase 3 drug trial with respect to AEZS-130." This would be consistent with how the August 30, 2011 press release stated that Aeterna was "announc[ing] favorable top-line results of its *completed* Phase 3 study with AEZS-130..."

21. To the extent that one might try to argue in general that the market might treat "final" results differently than it would treat "completed" results, such an argument would be in tension, if not inconsistent, with the analysis in the Werner Declaration, which excluded October 18, 2012 as a day for analysis, even though on that day "an

<sup>&</sup>lt;sup>22</sup> Complaint, ¶84. Emphasis added.

<sup>&</sup>lt;sup>23</sup> "Aeterna Zentaris Announces Favorable Top-Line Results of Completed Phase 3 Study on AEZS130 as First Oral Diagnostic Test for Adult Growth Hormone Deficiency," August 30, 2011. Emphasis added.

extension of the data from the AEZS-130 Phase III trial was presented[.]"<sup>24</sup> If an "extension of the data" is not deemed to be new information, then a "reiterat[ion]" of previously released results should also not be deemed to be new information. Any stock-price movement on June 26, 2012 would then either have to be due to other information released that day unrelated to the reiteration of the August 30, 2011 alleged misrepresentations, or, if there is no other material new information, would be evidence that Aeterna's common stock traded in an inefficient market.

22. The Complaint also alleges that "[i]n a series of public announcements from August 30, 2011 through March 21, 2014, Aeterna continually misrepresented that the AEZS-130 Phase 3 study had met its primary endpoint for efficacy and that AEZS-130 had proven effective according to the parameters of the SPA." This description indicates that Plaintiffs are pursuing a theory in which the same alleged misrepresentation (i.e., that the statement that "AEZS-130 Phase 3 study had met its primary endpoint for efficacy and that AEZS-130 had proven effective according to the parameters of the SPA" was incorrect) was "continually" made over a period of the proposed Class Period including June 26, 2012. For the same reason that Plaintiffs' theory of liability, along with the analyses in the Werner Declaration, implies that the June 26, 2012 reiteration of the alleged misrepresentation could not have had an impact on Aeterna's common stock price, there also could not have been any impact on Aeterna's common stock price from any other repetitions or reiterations of the same alleged misrepresentation first made on August 30, 2011.

Werner Declaration, fn. 74. See also Werner Depo., 69:8-19. ("Q. Okay. How about the October 18 date, why was it excluded? A. Because the company's CEO stated that the data presented earlier today by Dr. Merriam extended those presented on the same study last June at ENDO. Q. Okay. And why does that merit exclusion of the date? A. Because it was not significant new information. Q. The extension of the data was not new significant information? A. Correct.")

<sup>&</sup>lt;sup>25</sup> Complaint, ¶16.

# VII. THE PROPOSED DAMAGES METHODOLOGY IN THE WERNER DECLARATION IS NOT GENERALLY ACCEPTED

23. In ¶142(iii), the Werner Declaration states, "Third, the measure of per share damages generally applied in 10b-5 cases is the reduction in the inflation ribbon over an investor's holding period (the economic/inflation loss). That is, for each Class member, per share damages would be calculated as the difference between the inflation on the date shares were purchased and the inflation on the date those same shares were subsequently sold." The Werner Declaration further claims that its measure of damages is "generally accepted and widely used for calculating damages under Section 10(b) consistently on a Class-wide basis in securities class actions." <sup>26</sup>

24. In fact, this measure of damages has not been generally accepted since the Supreme Court's 2005 ruling in *Dura*. The flaw in the reasoning given in the Werner Declaration is that it does not account for *why* any inflation in Aeterna's stock price may have dissipated. This theory is explained by the Fourth Circuit in *Glaser v. Enzo Biochem* (Internal footnote omitted. Emphases in original):

The loss causation principle endorsed by *Dura* can be illustrated by a simple hypothetical: Assume an investor purchased 100 shares of Enzo for \$12 per share on January 12, 2000, after the alleged misrepresentations were made. If the market had known the truth about the science, instead of trading for \$12 per share, the stock would have traded for only \$1 per share.

Plaintiffs in this case would have stopped the analysis there, contending that, on the very day of purchase, the investor has suffered a loss of \$1,100 — the difference between the price paid (\$1,200) and the price that *would have been paid* (\$100) had the true facts been known. This analysis ignores the fact that the true facts are not yet known and the hypothetical investor has not yet suffered a loss.

If the stock later drops, as a result of normal market fluctuations, to \$6 per share (again assuming the fraud has not yet been disclosed), then the investor owns stock worth only one-half of what was paid

<sup>&</sup>lt;sup>26</sup> Werner Declaration, ¶144.

for it. If he sells at this point, he has lost \$600 of his initial \$1,200 investment, to be sure, but this loss was not caused by the fraudulent conduct, because, under the hypothetical, the market is still unaware of the misrepresentations.

25. Thus, the statement in the Werner Declaration that "for each Class member, per share damages would be calculated as the difference between the inflation on the date shares were purchased and the inflation on the date those same shares were subsequently sold" is inconsistent with the example given in *Glaser v. Enzo Biochem*. In that example, the inflation on purchase was \$11 per share (the \$12 purchase price per share less the \$1 value per share at which the stock would have traded) and the inflation on sale can be at most \$6 per share, as the stock price is only \$6. Thus, using the damages theory in the Werner Declaration, damages would have to be at least \$5 per share (i.e., \$11 less at most \$6). However, the *Glaser* court held that such an investor would have no damages. Other courts have reached similar conclusions.<sup>27</sup>

26. It has been my experience that since the *Dura* decision, both plaintiff and defense experts have typically rejected the simplistic description of damages given in the Werner

<sup>&</sup>lt;sup>27</sup> See, for example, *In re Daou Systems Securities Litigation*, 411 F.3d 1006 (9th Cir. 2005) at 1026-1027 ("We note that, as the TAC currently reads, at the time when Daou began to reveal its true financial health in August 1998, its stock was trading at \$18.50 per share and not at the class high of \$34.375. The TAC does not allege any revelation of Daou's true financial health prior to August 1998. Thus, as the TAC reads now, any loss suffered between \$34.375 and \$18.50 cannot be considered causally related to Daou's allegedly fraudulent accounting methods because before the revelations began in August 1998, the true nature of Daou's financial condition had not yet been disclosed.") See also United States v. Olis, 429 F.3d 540 (5th Cir, 2005) ("Thus, there is no loss attributable to a misrepresentation unless and until the truth is subsequently revealed and the price of the stock accordingly declines. Where the value of a security declines for other reasons, however, such decline, or component of the decline, is not a 'loss' attributable to the misrepresentation.") This passage in Olis is cited favorably by US v. Rutkoske, 506 F.3d 170 (2d Cir. 2007). See also In re Intelligroup Securities Litigation, Civil Action No. 04-1980 (GEB) (D.N.J. Nov. 13, 2007). ("If the price of a security declines after the purchase for reasons unrelated to the fraud, or if the circumstances of the decline are such that the investor's economic loss is bound to be speculative, the investor has no right to recovery.")

Declaration in favor of more sophisticated methodologies or methodologies that explicitly account for *Dura* in the estimation of inflation. That is, these more sophisticated methodologies recognize that further adjustments may be necessary if the amount of inflation declines for reasons other than a corrective disclosure (e.g., if inflation changes due to market or company-specific reasons unrelated to the allegations). As the description of the inflation methodology in the Werner Declaration does not contain any reference to such adjustments, it is open to multiple interpretations, many of which would be inconsistent with *Dura*.

27. The Werner Declaration also states that "[t]he inflation ribbon is often constructed by working chronologically backwards from the final corrective disclosure to the start of the Class Period, accounting for the alleged fraud-related residual price declines as they occurred."<sup>28</sup> This proposed methodology fails to account for the change in inflation that even Dr. Werner admits "[p]ossibly" would have occurred around a May 2012 pre-NDA meeting between Aeterna and the FDA.<sup>29</sup> The Complaint alleges that in a pre-NDA meeting, Aeterna learned information that lowered its view of the likelihood that the FDA would approve AEZS-130.<sup>30</sup> This information therefore changed Aeterna's perception of the true value of its stock, and thus also the inflation in the stock price.<sup>31</sup> As this information was never disclosed to the market, there would be no "residual price decline[]" to reflect this change in inflation. Instead, to account for this change in inflation, Dr. Werner would need to present a damages methodology different from the one described in the Werner Declaration.

28. A further issue with the proposed damages methodology in the Werner Declaration is that it does not indicate how, or even whether, the inflation would be

<sup>&</sup>lt;sup>28</sup> Werner Declaration, ¶142(ii).

<sup>&</sup>lt;sup>29</sup> Werner Depo., 122:13-123:15.

<sup>&</sup>lt;sup>30</sup> Complaint, ¶82.

<sup>&</sup>lt;sup>31</sup> The change in inflation would occur when Aeterna was allegedly required to disclose this information to the public, which, under Plaintiffs' theory of liability, presumably would be no later than the June 26, 2012 press release in which discussed AEZS-130.

adjusted for the fact that the alleged corrective disclosure in this case on November 6, 2014, was a materialization of allegedly previously undisclosed risks. This issue was prominent in the *In re BP Securities Litigation* related to the Deepwater Horizon oil rig explosion. This issue arises when a corrective disclosure is not merely a correction of something that should have been reported differently earlier, such as previously misstated financials, but reflects the materialization of a risk from actions by a third party (whether an auditor, lenders, the government, or even an oil rig). To see this issue, consider an example of a company with accounting or internal control issues. Unaware of these issues, the market may estimate that there is a 1% chance that the company's auditor would resign. Suppose that with knowledge of these issues, the market would have estimated that there was a 10% chance that the auditor would resign. Now, suppose that the auditor does resign and the stock price falls by \$9.90 per share as a result. The \$9.90 per share reflects the market's updating of the probability of the auditor resigning from 1% to 100%, an increase of 99 percentage points. Each percentage point of risk therefore corresponds to \$0.10 in stock price (i.e., the 99% increase in the probability of the auditor resigning corresponds to a \$9.90 decrease in the stock price, so each one percentage point in probability corresponds to \$0.10). Had the true information that would have let the market estimate a 10% probability of the auditor resigning been disclosed earlier, the market would have increased its estimate of that probability by 9 percentage points (i.e., from 1% to 10%), which would have led to a \$0.90 decline in the stock price. If this is the methodology that Dr. Werner will employ, then I find that it is consistent with both case law and economic literature.<sup>32</sup>

29. The Werner Declaration does not propose a methodology that would account for the undisclosed true risks (in the example, of an auditor resigning; in the instant case, of the FDA rejecting approval of AEZS-130). Moreover, by discussing only changes in

<sup>&</sup>lt;sup>32</sup> For academic literature, see, for example, Bradford Cornell and R. Gregory Morgan, "Using finance theory to measure damages in fraud on the market cases," UCLA L. Rev. 37 (1989): 883, discussing overdisclosure and underdisclosure.

inflation due to corrective disclosures, the proposed damages methodology contains not even a reference to how it would account for how the undisclosed risk of non-approval of AEZS-130 changed as a result of the alleged May 2012 meeting in which Aeterna allegedly learned that the risk of non-approval had increased. As the Werner Declaration proposes a methodology for measuring inflation that would fail to account for undisclosed changes in Aeterna's view of the likelihood of approval of AEZS-130, it has proposed a methodology that would not measure the actual inflation (i.e., the \$0.90 in the example) in Aeterna's stock price at any time in the alleged class period before the May 2012 alleged pre-NDA meeting, such as the August 30, 2011 start of the proposed class period.<sup>33</sup> The alternative to measuring the actual inflation as of each date in the proposed class period would be to award the entire price decline to plaintiffs as damages (i.e., the \$9.90 in the example). However, as noted in *In re BP Petroleum Securities Litigation*, this provides a full recovery not just to those investors who would not have purchased the stock had they known the true risk (i.e., those with risk tolerances between 1% and 10% in the example), but also those who would still have purchased the stock had they known the true risk (i.e., those with risk tolerances greater than 10% who still would have purchased had they known the 10% risk of a negative outcome). However, the BP Petroleum court noted that this was not a classwide issue, and the court refused to certify a class on the issue relating to the undisclosed risk of an adverse event..<sup>34</sup>

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<sup>&</sup>lt;sup>33</sup> As discussed above, Dr. Werner acknowledges, and I agree, that there was no statistically significant price impact on August 30, 2011, even though the alleged misrepresentation that day was an "affirmative" one that would have increased rather than simply maintained the stock price if it had a price impact. As a result, there can be no inflation on August 30, 2011 associated with the misrepresentation allegedly made on that date.

<sup>&</sup>lt;sup>34</sup> I recognize that the Werner Declaration discusses what is "often" done, leaving room for some undisclosed alternative methodology. However, without any disclosure of that alternative methodology in the Werner Declaration, I currently have no means of assessing what Dr. Werner might do and whether that alternative methodology would be in accord with generally accepted damages methodologies.

30. Here, the alleged corrective disclosure involves not a restatement of some prior information, but instead the decision by the FDA to reject approval of the NDA, which Aeterna announced on November 6, 2014. This event could not have been disclosed by Defendants at earlier points in time, as Defendants could not have known that it would occur. Unless and until Dr. Werner incorporates this into his theory of damages, his damages methodology will not be consistent with the theory of liability and allegations in the Complaint.<sup>35</sup>

31. It is my understanding that the fit between the proposed damages analysis and plaintiffs' theory of a case is one that the Supreme Court said was necessary in *Comcast Corp. v. Behrend*, 133 S. Ct. 1426 (2013), where the Supreme Court stated that "at the class-certification stage (as at trial), any model supporting a 'plaintiff's damages case must be consistent with its liability case, particularly with respect to the alleged anticompetitive effect of the violation." While it is my understanding that Plaintiffs need not provide a fully developed damages model at class certification, the description of the damages methodology must be consistent with the theory of liability Plaintiffs are proposing. Here, Dr. Werner has not indicated whether the price drop following the November 6, 2014 announcement of the FDA's rejection of the AEZS-130 new drug application would be adjusted downward to account for how previously, only the risks of an FDA rejection related to efficacy concerns related to the Phase 3 study could have

<sup>&</sup>lt;sup>35</sup> See, for example, ¶83 of the Complaint: "Despite having been informed by the FDA at the pre-NDA meeting and in numerous discussions following the pre-NDA meeting that it was inappropriate to exclude two patients the primary statistical analysis, Aeterna nevertheless went ahead and filed the NDA for AEZS-130, knowing that the FDA disagreed with the robustness of Aeterna's data and its analyses, that it violated the SPA and that the NDA would almost certainly be denied." A fair reading of this is that the Complaint does not allege that Aeterna knew that the NDA "would almost certainly be denied" before the alleged pre-NDA meeting, and thus knew only of a heightened risk of denial. Even after the alleged pre-NDA meeting, there would still be a difference between believing that the NDA "would almost certainly" be denied and the 100% probability of denial that the market learned about when approval for the NDA was in fact denied at the end of the proposed class period.

been disclosed by Defendants.<sup>36</sup> The allegation that the market was uninformed of the full extent of a risk that later materialized is exactly the same issue that led to the denial of class certification in *BP Petroleum* where plaintiffs did not provide a proposed damages methodology to account for that issue.

### VIII. CONCLUSION

- 32. The Werner Declaration provides no analysis of the efficiency of Aeterna securities other than the common stock, and thus cannot support a finding of efficiency for any other Aeterna security.
- 33. The Werner Declaration demonstrates that there was no price impact from the alleged misrepresentation on August 30, 2011. The Werner Declaration established a protocol under which an event would have to cause a statistically significant stock-price movement at the 5% significance level (or the "95% confidence level") and the Werner Declaration admits that Aeterna's stock-price movement following the August 30, 2011 news failed to meet this objective or even the weaker 10% significance level ("90% confidence level"). The conclusion of a lack of price impact from the August 30, 2011 news is buttressed by the lack of any analyst changing his or her price target or recommendation following this news.
- 34. The information regarding the Phase 3 study released on June 26, 2012, the only other alleged day related to the Phase 3 study results where the Werner Declaration finds a positive stock-price movement, is alleged by Plaintiffs to be a "reiterat[ion]" of the information already disclosed on August 30, 2012. Thus, under Plaintiffs' theory of liability, any stock-price movement on that day must be attributable to other news, or else to Aeterna's common stock not trading in an efficient market. More generally, to the

<sup>&</sup>lt;sup>36</sup> This issue is also discussed, described as "overdisclosure," in Bradford Cornell, and R. Gregory Morgan, "Using finance theory to measure damages in fraud on the market cases," UCLA L. Rev. 37 (1989): 883.

extent there is a positive price impact on any other date with alleged misrepresentations, if Aeterna's stock trades in an efficient market, then such a price impact would have to be due to news other than a reiteration of the same information already disclosed to the market on August 30, 2011, as both the statistical analysis in the Werner Declaration and my review of analyst reports indicate a lack of price impact on August 30, 2011.

35. The proposed damages methodology in the Werner Declaration has not been generally accepted since the Supreme Court's 2005 decision in Dura. While the proposed damages methodology in the Werner Declaration claims that damages can be measured as the difference between inflation on purchase and inflation on sale, this simplistic approach, which does not account for why any inflation left the stock price, is no longer considered a valid methodology. The proposed damages methodology in the Werner Declaration also fails to account for the change in inflation as a result of information Aeterna learned at a May 2012 meeting with the FDA. The damages methodology described in the Werner Declaration also fails to discuss how it would deal with undisclosed risk, either by reducing the measured price reactions and inflation ribbon to account for the difference between an undisclosed risk and the full realization of that risk or by assuming that investors are entitled to the full price decline upon the materialization of the risk (which could be proper, at most, only for investors who can show that their risk tolerance was between the disclosed and undisclosed levels of risk). All of these issues highlight the fact that the proposed damages methodology in the Werner Declaration is highly general and vague, failing to account for relevant federal case law or the particular allegations and theory of liability in this case.

I reserve the right to modify or extend my opinion in light of any new information, including submissions by any experts for plaintiffs, that becomes available to me.

David I. Tabak

March 23, 2017



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# EXHIBIT 1 DAVID I. TABAK MANAGING DIRECTOR

Dr. Tabak earned his Ph.D. and M.A. degrees in Economics from Harvard University and his B.S. in Economics and B.S. in Physics from the Massachusetts Institute of Technology. While at Harvard, Dr. Tabak participated in teaching courses in micro- and macroeconomics and American economic policy at the undergraduate and graduate levels and in the creation of an undergraduate textbook and accompanying software package.

Dr. Tabak has appeared as an expert in state, federal, and bankruptcy court, and before arbitration panels, including the National Association of Securities Dealers, the American Arbitration Association, the International Dispute Resolution Centre, and the International Chamber of Commerce International Court of Arbitration. He has published in his areas of expertise in forums such as *St. John's Law Review* and *Shannon Pratt's Business Valuation Update*, and has published peer-reviewed articles in *Litigation Economics Review* and the *Journal of Forensic Economics*. Dr. Tabak is also the author of book chapters and has served as a member of *BV Q&A Update's* expert author panel and as a referee for peer-reviewed journals. His publications have covered topics such as commercial disputes, economic analysis of market efficiency, valuation discounts for lack of marketability, and the application of statistics in litigation analyses. Dr. Tabak has been an invited presenter at the Securities and Exchange Commission and has spoken at forums that provide continuing legal education credits or continuing professional education credits for accountants and valuation professionals.

Dr. Tabak has been retained as an expert to address issues including allegations of valuations, contract disputes, commercial damages, and disputes between brokers and customers. His non-litigation work has included developing a risk-scoring model for a reinsurance company, assisting financial institutions in new product development, analysis of potential insider trading for a financial institution, and interpretation of statistical analyses of treatment effectiveness for a program for at-risk youth.

David I. Tabak

#### **Education**

#### **Harvard University**

Ph.D., Economics, 1996 M.A., Economics, 1992

#### **Massachusetts Institute of Technology**

B.S., Economics, 1990 B.S., Physics, 1990

### **Professional Experience**

#### **NERA Economic Consulting**

2005- *Managing Director (f/k/a Senior Vice President)* 

Provide written and oral testimony. Conduct and supervise economic analyses,

with a focus on securities litigation and valuation cases.

2001-2005 Vice President
1998-2001 Senior Consultant
1996-1998 Senior Analyst

#### **Harvard University**

1991-1996 Teaching Fellow in Economics

Participated in teaching various courses from introductory principles of economics to graduate macroeconomics. Ran coursewide tutorial program for the largest class at Harvard for two academic years, with a staff of over fifty part-time employees.

#### **Worth Publishers**

1991, 1993 Research Assistant/Independent Contractor

Worked on data collection, software analysis, and creation of a problem bank for an educational economics software package.

#### National Bureau of Economic Research

1991 Research Assistant

Performed data collection and econometric analysis for a project on comparisons of international growth rates.

#### **Honors and Professional Activities**

Member, American Economic Association, 1993-present

Referee, Journal of Forensic Economics, 2005, 2006, 2008, 2009, 2011, 2012, 2015

Referee, Litigation Economics Review, 2002, 2003, 2004

William M. Mercer Securities Corporation, Registered Representative, Series 7 and 63, 2000 - 2002

Marsh & McLennan Securities Corporation, Registered Representative, Series 7 and 63, 1998 - 2000

Adjunct Member, Committee on International Trade, Association of the Bar of the City of New York, 1998 – 2001

Harvard University Scholarship, 1990-1992

Derek Bok Teaching Award, 1993, 1994, 1995, and 1996

Allyn Young Teaching Award, 1996

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Deposition Testimony before the United States District Court for the Southern District of New York in *In re Omnicom Group Inc. Securities Litigation*, April 27, 2007.

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Panelist, "Keeping Or Closing The Employer Stock Fund: A *Dudenhoeffer*-Based Process," American Bar Association Section of Taxation, Chicago, IL, September 19, 2015.

Presenter, "Multiple Comparisons and the Known or Potential Error Rate," National Association of Forensic Economics session at the Eastern Economics Association, New York, NY, 27 February 2015.

Panelist, Annual Institute for Investor Protection Conference at Loyola University Chicago Law School, 24 October 2014.

Panelist, 2014 Business Law Section Annual Meeting, American Bar Association, Chicago, 11 September 2014.

Moderator, New York University Ross Roundtable, April 7, 2014.

Commentator, Institute for Law and Economic Policy Conference: "Business Litigation and Regulatory Agency Review in the Era of the Roberts Court," April 4, 2014.

Panelist, "The Supreme Court's Decision in Amgen and Other Recent Cases," Securitiesdocket.com; July 24, 2013.

Panelist, "Securities Law: Fraud-on-the-Market Theory Demystified," The Knowledge Congress; July 23, 2013.

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Panelist, The Society of Corporate Secretaries on materiality issues in determining corporate disclosures, October 18, 2012; New York, NY.

Panelist, Symposium in honor of Nobel Prize Winner Daniel Kahneman at Loyola University, Chicago, IL; October 5, 2012.

Panelist, Practising Law Institute, "Taking and Defending Expert Depositions"; New York, NY June 27, 2012.

Discussant, National Association of Forensics Economics; Chicago IL; January 7, 2012.

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Presenter, Securities Regulation Committee of the New York State Bar Association; New York, New York; July 20, 2011.

Panelist, 2<sup>nd</sup> Annual Law Firm Marketing U& Business Development Leadership Forum, sponsored by *The American Lawyer* (session: Macro Economic Industry-by-Industry Overview – a power-packed session exploring the sectors that will shape 2011 and beyond); New York, NY; May 24, 2011.

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Panel Member, *Directors & Officers Under Fire: Protecting Your Interests in this Hostile Environment*, a Directors Roundtable seminar; Washington, D.C.; June 8, 2004.

Guest Lecturer, Fordham University; New York, New York; March 8, 2004.

Panel Member, Business Valuation Resources audio conference on discounts for lack of marketability; May 14, 2003.

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Guest Lecturer, Middlebury College; Middlebury, Vermont; January 28, 2003.

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Guest Speaker, Deutsche Bank institutional investor conference call; November 22, 2002.

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March 2017

#### Exhibit 2

#### Aeterna Zentaris, Inc.

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#### Exhibit 2

#### Aeterna Zentaris, Inc.

#### **Materials Considered**

#### Pleadings in This Matter

Declaration of Dr. Adam Werner (the "Werner Declaration"), dated December 9, 2016, and materials produced in discovery related to the Werner Declaration.

Deposition of Adam Werner, Ph.D., dated February 10, 2017.

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#### **Other Materials**

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